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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/607,794	06/27/2003	Kevin Bergevin	DC7001 US DIV	6269

23906 7590 06/14/2005

E I DU PONT DE NEMOURS AND COMPANY  
LEGAL PATENT RECORDS CENTER  
BARLEY MILL PLAZA 25/1128  
4417 LANCASTER PIKE  
WILMINGTON, DE 19805

EXAMINER
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LEO, LEONARD R

ART UNIT	PAPER NUMBER
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3753

DATE MAILED: 06/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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**Office Action Summary**

Application No.

10/607,794

Applicant(s)

BERGEVIN ET AL.

Examiner

Leonard R. Leo

Art Unit

3753

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --****Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 4-32 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 4-32 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 10/03.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

### **DETAILED ACTION**

This application is a Division of serial no. 09/921817, abandoned. Claims 1-3 are cancelled, and claims 4-32 are pending.

#### ***Drawings***

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the “surface has a curvilinear shape” in claim 8 and the “surface has a shape generally in the nature of a figure eight” in claim 9 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 4-32 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 4 recites the limitation "the plate" in line 12. There is insufficient antecedent basis for this limitation in the claim.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 4, 6-7, 10-14, 16-22, 25-29 and 31-32 are rejected under 35 U.S.C. 102(b) as being anticipated by Bader (Figures 3-8). Regarding claim 6, Figure 6 of A discloses column 21 disposed at the outer ends of each spacer 20. Regarding claim 10, Figure 8 of Bader discloses spacers 120 on top of the layers. Regarding claim 11, Figure 3 of Bader discloses four spacers on each layer. Regarding claim 14, Bader (column 5, lines 8-13) discloses ten tubes. Regarding claim 16, Figure 1 of Bader discloses four layers. Regarding claim 17, Figure 3 of Bader discloses four groups. Regarding claims 18-20, it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. *Ex*

*parte Masham*, 2 USPQ2d 1647 (1987). Regarding claims 21-22, 25-29 and 31-32, the method claims are considered to be a method limitation in an apparatus claim, which bears no patentable weight in this instance. See MPEP 2113.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 15 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bader.

Bader discloses all the claimed limitations except 15 to 30 tubes.

To employ the specific number of tubes is considered to be an obvious design expedient, producing no new and/or unexpected results and solving no stated problem. It would have been obvious to one of ordinary skill in the art to employ any number of tubes to achieve a desired heat exchange. This obvious design choice is disclosed by Bader (column 6, lines 25-31).

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bader in view of Tippman et al.

The device of Bader lacks columns at the inner ends of the spacers.

Tippman et al discloses a heat exchanger comprising a plurality of groups, each having a plurality of tubes 20 in a coiled configuration; and spacers 60 with an outer end support 12 and an inner end support 14 for the purpose of providing strength and tube support.

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Since Bader and Tippman et al are both from the same field of endeavor and/or analogous art, the purpose disclosed by Tippman et al would have been recognized in the pertinent art of Bader.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ in Bader spacers with an inner end support for the purpose of providing strength and tube support as recognized by Tippman et al.

Claims 8-9 and 23-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bader in view of Maruyama.

The device of Bader lacks a curvilinear shape other than circular.

Maruyama discloses a heat exchanger comprising a plurality of layers, each having a plurality of tubes 9 in a coiled configuration; wherein the coil shape is an oval (Figure 8, column 6, lines 28-35 and column 8, lines 35-37) for the purpose of achieving a desired heat exchange.

Since Bader and Maruyama are both from the same field of endeavor and/or analogous art, the purpose disclosed by Maruyama would have been recognized in the pertinent art of Bader.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ in Bader an oval coil shape for the purpose of achieving a desired heat exchange as recognized by Maruyama. As disclosed by Maruyama, any geometric shape may be employed and are obvious variants of one another.

### *Conclusion*

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leonard R. Leo whose telephone number is (571) 272-4916. The examiner can normally be reached on Monday thru Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gene Mancene can be reached on (571) 272-4930. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



LEONARD R. LEO  
PRIMARY EXAMINER  
ART UNIT 3753

June 12, 2005